The following is a complete list of the claims now pending; this listing replaces all earlier versions and listings of the claims.

Claim 1 (currently amended): A method of classifying a digital image, said method comprising the steps of:

segmenting the digital image into substantially homogeneous regions;

processing the regions to provide a _labeled_ region adjacency graph for the digital image, the _labeled_ region adjacency graph representing spatial adjacency between the regions _of the digital image,_ ~~wherein~~ at least one of the regions of the _labeled_ region adjacency graph [[is]] _being_ associated with ~~at least~~ one of a plurality of predetermined semantic labels;

analyzing the _labeled_ region adjacency graph to identify _one or more_ predetermined patterns of the semantic labels ~~associated with the regions~~ _in the labeled region adjacency graph;_ and

assigning one _or more_ of a plurality of predetermined stereotypes to the digital image according to each identified _predetermined_ pattern of the semantic labels _in the labeled region adjacency graph_ ~~associated with the regions,~~ _wherein each of the predetermined stereotypes corresponds to at least one of the predetermined patterns_ such that the assigned stereotype represents a classification of the digital image _based on each predetermined pattern identified in the labeled region adjacency graph._

Claim 2 (canceled)

2

Claim 3 (currently amended): The method according to claim 1, wherein identification of the predetermined pattern is based on ~~digital image is classified on the basis~~ of a size of one or more regions of the digital image.

Claim 4 (currently amended): The method according to claim ~~3~~ 1, wherein identification of the predetermined pattern is based on ~~digital image is classified on the basis~~ of an adjacency of the regions.

Claim 5 (currently amended): The method according to claim 1, wherein identification of the predetermined pattern is based on ~~digital image is classified on the basis~~ of semantic label content of the region adjacency graph.

Claim 6 (currently amended): The method according to claim 1, wherein identification of the predetermined pattern is based on ~~digital image is classified on the basis~~ of a mean color of one or more regions of the digital image.

Claim 7 (previously presented): The method according to claim 1, wherein the plurality of stereotypes are stored in an association lookup table.

Claim 8 (previously presented): The method according to claim 1, wherein the stereotypes are represented in a hierarchal arrangement.

Claim 9 (previously presented): The method according to claim 7, wherein each of the stereotypes has a hierarchical path.

Claim 10 (previously presented): The method according to claim 1, wherein the region adjacency graph is provided by analyzing contextual data associated with one or more regions of the digital image.

Claim 11 (previously presented): The method according to claim 10, wherein the contextual data comprises information generated by one or more separate sources of the information.

Claim 12 (previously presented): The method according to claim 11, wherein a corresponding portion of the contextual data is obtained from a temporal region of interest for each source of the information.

Claim 13 (previously presented): The method according to claim 1, further comprising the step of providing metadata associated with the digital image, wherein the metadata includes the stereotypes of the digital image.

Claim 14 (previously presented): The method according to claim 13, wherein the metadata includes a hierarchical path associated with the respective stereotype of each digital image.

Claim 15 (previously presented): The method according to claim 14, wherein the hierarchical path is stored with a respective stereotype as a metadata object which is associated with a respective image object.

Claim 16 (previously presented): The method according to claim 14, wherein the hierarchical path is stored as a referenced lookup table.

Claim 17 (previously presented): The method according to claim 1, wherein the digital image is stored in a database of digital images and wherein the classification can be used to retrieve the digital image from the database.

Claim 18 (currently amended): An apparatus for classifying a digital image, said apparatus comprising:

segmenting means for segmenting the <u>digital</u> image into substantially homogeneous regions;

processing means for processing the regions to provide a <u>labeled</u> region adjacency graph for the digital image, the <u>labeled</u> region adjacency graph representing spatial adjacencies between the regions <u>of the digital image,</u> ~~wherein~~ at least one of the regions of the <u>labeled</u> region adjacency graph [[is]] <u>being</u> associated with ~~at least~~ one of a plurality of predetermined semantic labels;

analyzing means for analyzing the <u>labeled</u> region adjacency graph to identify <u>one or more</u> predetermined patterns of the semantic label ~~associated with the regions~~ <u>in the labeled region adjacency graph</u>; and

assigning means for assigning one <u>or more</u> of a plurality of predetermined stereotypes to the digital image according to each identified <u>predetermined</u> pattern of the semantic labels <u>in the labeled region adjacency graph</u> ~~associated with the regions,~~ <u>wherein each of the predetermined stereotypes corresponds to at least one of the predetermined patterns</u> such that the assigned stereotype represents a classification of the

5

digital image <u>based on each predetermined pattern identified in the labeled region adjacency</u> <u>graph.</u>.

Claim 19 (canceled)

Claim 20 (currently amended): The apparatus according to claim 18, wherein <u>identification of</u> the <u>predetermined pattern is based on</u> ~~digital image is classified on~~ ~~the basis of~~ a size of one or more regions of the digital image.

Claim 21 (currently amended): The apparatus according to claim ~~20~~ <u>18</u>, wherein <u>identification of</u> the <u>predetermined pattern is based on</u> ~~digital image is classified on~~ ~~the basis of~~ an adjacency of the regions.

Claim 22 (currently amended): The apparatus according to claim 18, wherein <u>identification of</u> the <u>predetermined pattern is based on</u> ~~digital image is classified on~~ ~~the basis of~~ semantic label content of the region adjacency graph.

Claim 23 (currently amended): The apparatus according to claim 18, wherein <u>identification of</u> the <u>predetermined pattern is based on</u> ~~digital image is classified on~~ ~~the basis of~~ a mean color of one or more regions of the digital image.

Claim 24 (previously presented): The apparatus according to claim 18, wherein the plurality of stereotypes are stored in an association lookup table.

Claim 25 (previously presented): The apparatus according to claim 18, wherein the stereotypes are represented in a hierarchal arrangement.

Claim 26 (previously presented): The apparatus according to claim 24, wherein each of the stereotypes has a hierarchical path.

Claim 27 (previously presented): The apparatus according to claim 18, wherein the region adjacency graph is provided by analyzing contextual data associated with one or more regions of the digital image.

Claim 28 (previously presented): The apparatus according to claim 27, wherein the contextual data comprises information generated by one or more separate sources of the information.

Claim 29 (previously presented): The apparatus according to claim 28, wherein a corresponding portion of the contextual data is obtained from a temporal region of interest for each source of the information.

Claim 30 (previously presented): The apparatus according to claim 18, further comprising metadata providing means for providing metadata associated with each digital image, wherein the metadata includes the stereotypes of each digital image.

Claim 31 (previously presented): The apparatus according to claim 30, wherein the metadata includes a hierarchical path associated with the respective stereotypes of each digital image.

Claim 32 (previously presented): The apparatus according to claim 31, wherein the hierarchical path is stored with a respective stereotype as a metadata object which is associated with a respective image object.

Claim 33 (previously presented): The apparatus according to claim 31, wherein the hierarchical path is stored as a referenced lookup table.

Claim 34 (previously presented): The apparatus according to claim 18, wherein the digital image is stored in a database of digital images and wherein the classification can be used to retrieve the digital image from the database.

Claim 35 (currently amended): A computer program product comprising a computer readable medium having a computer program recorded for classifying a digital image, said computer program product comprising:

a segmenting module, for segmenting the digital image into substantially homogeneous regions;

a processing module, for processing the regions to provide a <u>labeled</u> region adjacency graph for the digital image, the <u>labeled</u> region adjacency graph representing spatial adjacency between the regions <u>of the digital image,</u> ~~wherein~~ at least one of the regions

of the <u>labeled</u> region adjacency graph [[is]] <u>being</u> associated with ~~at least~~ one of a plurality of predetermined semantic labels;

an analyzing module, for analyzing the <u>labeled</u> region adjacency graph to identify <u>one or more</u> predetermined patterns of the semantic labels ~~associated with the regions~~ <u>in the labeled region adjacency graph</u>; and

an assigning module, for assigning one <u>or more</u> of a plurality of predetermined stereotypes to the digital image according to each identified <u>predetermined</u> pattern of the semantic labels <u>in the labeled region adjacency graph</u> ~~associated with the regions~~, <u>wherein each of the predetermined stereotypes corresponds to at least one of the predetermined patterns</u> such that <u>each of the predetermined stereotypes is associated with at least a plurality of said semantic labels and</u> the assigned stereotype represents a classification of the digital image <u>based on each predetermined pattern identified in the labeled region adjacency graph</u>.

Claim 36 (canceled)

Claim 37 (currently amended): The computer program product according to claim 35, wherein <u>identification of</u> the <u>predetermined pattern is based on</u> ~~digital image is classified on the basis of~~ a size of one or more regions of the digital image.

Claim 38 (currently amended): The computer program product according to claim ~~37~~ <u>35</u>, wherein <u>identification of</u> the <u>predetermined pattern is based on</u> ~~digital image is classified on the basis of~~ an adjacency of the regions.

Claim 39 (currently amended): The computer program product according to claim 35, wherein identification of the predetermined pattern is based on ~~digital image is classified on the basis of~~ semantic label content of the region adjacency graph.

Claim 40 (currently amended): The computer program product according to claim 35, wherein identification of the predetermined pattern is based on ~~digital image is classified on the basis of~~ a mean color of one or more regions of the digital image.

Claim 41 (previously presented): The computer program product according to claim 35, wherein the plurality of stereotypes are stored in an association lookup table.

Claim 42 (previously presented): The computer program product according to claim 35, wherein the stereotypes are represented in a hierarchal arrangement.

Claim 43 (previously presented): The computer program product according to claim 41, wherein each of the stereotypes has a hierarchical path.

Claim 44 (previously presented): The computer program product according to claim 35, wherein the region adjacency graph is provided by analyzing contextual data associated with one or more regions of the digital image.

Claim 45 (previously presented): The computer program product according to claim 44, wherein the contextual data comprises information generated by one or more separate sources of the information.

Claim 46 (previously presented): The computer program product according to claim 45, wherein a corresponding portion of the contextual data is obtained from a temporal region of interest for each source of the information.

Claim 47 (previously presented): The computer program product. according to claim 35 further comprising a metadata providing module for providing metadata associated with each digital image, wherein the metadata includes the stereotypes of each digital image.

Claim 48 (previously presented): The computer program product according to claim 47, wherein the metadata includes a hierarchical path associated with the respective stereotype of each digital image.

Claim 49 (previously presented): The computer program product according to claim 48, wherein the hierarchical path is stored with a respective stereotype as a metadata object which is associated with a respective image object.

Claim 50 (previously presented): The computer program product according to claim 48, wherein the hierarchical path is stored as a referenced lookup table.

Claim 51 (previously presented): The computer program product according to claim 35, wherein the digital image is stored in a database of digital images and wherein the classification can be used to retrieve the digital image from the database.

Claim 52 (currently amended): A method of classifying a digital image signal, said method comprising the steps of:

segmenting the digital image into substantially homogeneous regions;

processing the regions to provide a labeled region adjacency graph for the digital image, the labeled region adjacency graph representing spatial adjacency between the regions of the digital image, ~~wherein~~ at least one of the regions of the labeled region adjacency graph [[is]] being associated with ~~at least~~ one of a plurality of predetermined semantic labels;

providing a plurality of predetermined stereotype classifications, each of the stereotype classifications ~~being associated~~ with corresponding to at least one predetermined pattern, wherein each [[the]] predetermined pattern comprises:

(i) a set of ~~labelled~~ labeled regions; or

(ii) a set of ~~labelled~~ labeled regions and corresponding adjacency information;

analyzing the ~~labelled~~ labeled region adjacency graph to identify the presence of one or more patterns of ~~labelled~~ labeled regions in the labeled region adjacency graph; [[and]]

for each pattern of ~~labelled~~ labeled regions identified in the labeled region adjacency graph as matching at least one of the predetermined patterns, selecting from the plurality of stereotype classifications based on the matching; and

assigning the selected stereotype classification to the digital image as a classification of the digital image.

12

Claim 53 (canceled)

Claim 54 (currently amended): The method according to claim 52, wherein the digital image is classified on the basis of semantic label content of the <u>labeled</u> region adjacency graph.

Claim 55 (currently amended): The method according to claim 52, wherein a stereotype is assigned to the digital image signal on the basis of the adjacency of a set of regions with specified labels in the ~~labelled~~ <u>labeled</u> region adjacency graph.

Claim 56 (currently amended): The method according to claim 52, wherein a stereotype is assigned to the digital image signal on the basis of the size of one or more regions with a specified label in the ~~labelled~~ <u>labeled</u> region adjacency graph.

Claim 57 (currently amended): The method according to claim 52, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents a mean color of one or more regions in the ~~labelled~~ <u>labeled</u> region adjacency graph.

Claim 58 (currently amended): The method according to claim 52, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents a mean color texture of one or more regions in the ~~labelled~~ <u>labeled</u> region adjacency graph.

Claim 59 (previously presented): The method according to claim 52, wherein the plurality of stereotypes are stored in an association lookup table.

13

Claim 60 (previously presented): The method according to claim 52, wherein the stereotypes are represented in an hierarchical arrangement.

Claim 61 (previously presented): The method according to claim 60, wherein each of the stereotypes has a hierarchical path.

Claim 62 (previously presented): The method according to claims 52, wherein each of the stereotypes is represented by one of a plurality of icons.

Claim 63 (previously presented): The method according to claims 52, where the digital image is stored in a database of digital images and wherein the digital image can be retrieved from the database using a keyword representing a stereotype.

Claim 64 (previously presented): The method according to claim 52, where the digital image is stored in a database of digital images and wherein the digital image can be retrieved from the database using an icon representing a stereotype.

Claim 65 (previously presented): The method according to claim 52, where the digital image is stored in a database of digital images and wherein the digital image can be retrieved from the database using either a keyword or icon representing a generalization, or broader version, of a stereotype.

Claim 66 (currently amended): An apparatus for classifying a digital image signal, said apparatus comprising:

14

segmenting means for segmenting the digital image into substantially homogeneous regions;

processing means for processing the regions to provide a ~~labelled~~ labeled region adjacency graph for at least part of the digital image signal, the labeled region adjacency graph representing spatial adjacency between the regions of the digital image, ~~wherein~~ at least one of the regions of the labeled region adjacency graph being associated with ~~at least~~ one of a plurality of predetermined semantic labels;

classification providing means for providing a plurality of predetermined stereotype classifications, each of the stereotype classifications ~~being~~ ~~associated with~~ corresponding to at least one predetermined pattern, wherein each predetermined pattern comprises:

(i) a set of ~~labelled~~ labeled regions; or

(ii) a set of ~~labelled~~ labeled regions and corresponding adjacency information; and

analyzing means for analyzing the ~~labelled~~ labeled region adjacency graph to identify the presence of one or more patterns of ~~labelled~~ labeled regions, wherein for each pattern of ~~labelled~~ labeled regions identified in the labeled region adjacency graph as matching at least one of the predetermined patterns, [[the]] said classification providing means assigns one or more of the predetermined stereotype classifications to the digital image as a classification of the digital image.

Claim 67 (canceled)

Claim 68 (currently amended): The apparatus according to claim 66, wherein a stereotype is assigned to the digital image signal on the basis of the semantic label content of one or more regions in the ~~labelled~~ labeled region adjacency graph.

Claim 69 (currently amended): The apparatus according to claim 66, wherein a stereotype is assigned to the digital image signal on the basis of the adjacency of a set of regions with specified labels in the ~~labelled~~ labeled region adjacency graph.

Claim 70 (currently amended): The apparatus according to claim 66, wherein a stereotype is assigned to the digital image signal on the basis of the size of one or more regions with a specified label in the ~~labelled~~ labeled region adjacency graph.

Claim 71 (currently amended): The apparatus according to claim 66, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents a mean color of one or more regions in the ~~labelled~~ labeled region adjacency graph.

Claim 72 (currently amended): The apparatus according to claim 66, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents a mean color texture of one or more regions in the ~~labelled~~ labeled region adjacency graph.

Claim 73 (previously presented): The apparatus according to claim 66, wherein the plurality of stereotypes are stored in an association lookup table.

Claim 74 (previously presented):   The apparatus according to claim 66, wherein the stereotypes are represented in an hierarchical arrangement.

Claim 75 (previously presented): The apparatus according to claim 74, wherein each of the stereotypes has a hierarchical path.

. Claim 76 (previously presented): The apparatus according to claim 66, wherein each of the stereotypes is represented by one of a plurality of icons.

Claim 77 (previously presented): The apparatus according to claim 66, where the digital image is stored in a database of digital images and wherein the digital image can be retrieved from the database using a keyword representing a stereotype.

Claim 78 (previously presented): The apparatus according to claim 66, where the digital image is stored in a database of digital images and wherein the digital image can be retrieved from the database using a icon representing a stereotype.

Claim 79 (currently amended): The apparatus according to claim 66, where the digital image is stored in a database of digital images and wherein the digital image can be retrieved from the database using either a keyword or icon representing a generalization, or broader version, of a stereotype.

Claim 80 (currently amended): A computer program product comprising a computer readable medium having a computer program recorded for classifying a digital image signal, said computer program product comprising:

a segmenting module, for segmenting the digital image into substantially homogeneous regions;

a processing module, for processing the regions to provide a ~~labelled~~ labeled region adjacency graph, the labeled region adjacency graph representing spatial adjacency between the regions of the digital image, ~~wherein~~ at least one of the regions of the labeled region adjacency graph [[is]] being associated with at least one of a plurality of predetermined semantic labels;

a classification providing module, for providing a plurality of predetermined stereotype classifications, each of the stereotype classifications ~~being associated with~~ corresponding to at least one predetermined pattern, wherein each predetermined pattern comprises:

(i) a set of ~~labelled~~ labeled regions; or

(ii) a set of ~~labelled~~ labeled regions and corresponding adjacency information; and

an analyzing module, for analyzing the ~~labelled~~ labeled region adjacency graph to identify the presence of one or more patterns of ~~labelled~~ labeled regions, wherein for each pattern of ~~labelled~~ labeled regions identified in the labeled region adjacency graph as matching at least one of the predetermined patterns, [[the]] said classification providing ~~means assigns~~ step assigning one or more of the predetermined stereotype classifications to the digital image as a classification of the digital image.

18

Claim 81 (canceled)

Claim 82 (currently amended): The computer program product according to claim 80, wherein a stereotype is assigned to the digital image signal on the basis of the semantic label content of one or more regions in the ~~labelled~~ labeled region adjacency graph.

Claim 83 (currently amended): The computer program product according to claim 80, wherein a stereotype is assigned to the digital image signal on the basis of the adjacency of a set of regions with specified labels in the ~~labelled~~ labeled region adjacency graph.

Claim 84 (currently amended): The computer program product according to claim 80, wherein a stereotype is assigned to the digital image signal on the basis of the size of one or more regions with a specified label in the ~~labelled~~ labeled region adjacency graph.

Claim 85 (currently amended): The computer program product according to claim 80, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents a mean color of one or more regions in the ~~labelled~~ labeled region adjacency graph.

Claim 86 (currently amended): The computer program product according to claim 80, wherein a stereotype is assigned to the digital image signal on the basis of a label which represents a mean color texture of one or more regions in the ~~labelled~~ labeled region adjacency graph.

19

Claim 87 (previously presented): The computer program product according to claim 80, wherein the plurality of stereotypes are stored in an association lookup table.

Claim 88 (previously presented): The computer program product according to claim 80, wherein the stereotypes are represented in an hierarchical arrangement.

Claim 89 (previously presented): The computer program product according to claim 88, wherein each of the stereotypes has a hierarchical path.

Claim 90 (previously presented): The computer program product according to claim 80, wherein each of the stereotypes is represented by one of a plurality of icons.

Claim 91 (previously presented): The computer program product according to claim 80, wherein the digital image is stored in a database of digital images and wherein the digital image can be retrieved using a keyword representing a stereotype.

Claim 92 (previously presented): The computer program product according to claim 80, wherein the digital image is stored in a database of digital images and wherein the digital image can be retrieved using a icon representing a stereotype.

Claim 93 (previously presented): The computer program product according to claim 80, wherein the digital image is stored in a database of digital images and wherein the digital image can be retrieved from the database using either a keyword or icon representing a generalization, or broader version, of a stereotype.

Claim 94 (new): A method of classifying a digital image, said method comprising the steps of:

segmenting the digital image into substantially homogeneous regions;

processing the regions to provide a labeled region adjacency graph for the digital image, the labeled region adjacency graph representing spatial adjacency between the regions of the digital image, at least one of the regions of the labeled region adjacency graph being associated with one of a plurality of predetermined semantic labels;

analyzing the labeled region adjacency graph to identify one or more predetermined patterns of the semantic labels in the labeled region adjacency graph; and

assigning one or more of a plurality of predetermined stereotypes to the digital image according to each identified predetermined pattern of the semantic labels in the labeled region adjacency graph, each identified predetermined pattern being based on a minimum size of the regions in the labeled region adjacency graph, wherein each of the predetermined stereotypes corresponds to at least one of the predetermined patterns such that the assigned stereotype represents a classification of the digital image.